## Raw Sequence Listing Error Summary

|    | 4                                  |  |
|----|------------------------------------|--|
|    | RROR DETECTED                      | SUGGESTED CORRECTION SERIAL NUMBER: 09/451, 7396   |
| ΑT | TTN: NEW RULES CASI                | ES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE  |
| 1  | IWrapped Nucleic<br>Wrapped Aminos | s The number/text at the end of each line "vropped" down as the  |
| 2  | Invalid Line Leng                  | th The rules require that a line not exceed 72 characters in length. This includes white spaces.   |
| 3_ |                                    |  |
| 4_ | Non-ASCII                          | The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.   |
| 5_ | variation Bongin                   | Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.   |
| 6_ | PatentIn 2.0 "bug"                 | A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences. |
| 7_ | Skipped Sequences<br>(OLD RULES)   | Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:  (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  This sequence is intentionally skipped                                |
|    |                                    | Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.  |
| 8  | Skipped Sequences<br>(NEW RULES)   | Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence. <210> sequence id number <400> sequence id number 000  |
| 9  | Use of n's or Xaa's<br>(NEW RULES) | Use of n's and/or Xaa's have been detected in the Sequence Listing.  Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.   |
| 10 |                                    | Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence  |
| 11 |                                    | Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses. Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)                                       |
| 12 | PatentIn 2.0 "bug"                 | Please do not use "Copy to Disk" function of Patentln version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.  |
| 13 |                                    | 'n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid   |

Dirk Wa TRADELINA

<110> Jager, Dirk
Scanlan, Matthew
Gure, Ali
Jager, Elke
Knuth, Alexander
Old, Lloyd
Chen, Yao-tseng

<120> Isolated Nucleic Acid Molecules Encoding Cancer Associated Antigens, the Antigens per se, and Uses Thereof

<130> LUD 5615

<140> 09/451,739

<141> 1999-11-30

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|---|------------|------------|------------|------------|------------|------|
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| tgccccatcg  | agtggttcca | cttctcgtgc | gtggggctca | atcataaacc | caagggcaag | 1200 |
| tggtactgtc  | ccaagtgccg | gggggagaac | gagaagacca | tggacaaagc | cctggagaaa | 1260 |
| tccaaaaaag  | agagggctta | caacaggtag | tttgtggaca | ggcgcctggt | gtgaggagga | 1320 |
| caaaataaac  | cgtgtattta | ttacattgct | gcctttgttg | aggtgcaagg | agtgtaaaat | 1380 |
| gtatattttt  | aaagaatgtt | agaaaaggaa | ccattccttt | catagggatg | gcagtgattc | 1440 |
| tgtttgcctt  | ttgttttcat | tggtacacgt | gtaacaagaa | agtggtctgt | ggatcagcat | 1500 |
| tttagaaact  | acaaatatag | gtttgattca | aca        |            |            | 1533 |
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| cccgcggggg  | ctcggagaca | gtttcaggcc | gcatctttgc | tgacccgagg | gtggggccgc | 180  |
| gcgtggccgt  | ggaaacagat | cctgaaggag | ctagacgagt | gctacgagcg | cttcagtcgc | 240  |
| gagacagacg  | gggcgcagaa | gcggcggatg | ctgcactgtg | tgcagcgcgc | gctgatccgc | 300  |
| agccaggagc  | tgggcgacga | gaagatccag | atcgtgagcc | agatggtgga | gctggtggag | 360  |
| aaccgcacgc  | ggcaggtgga | cagccacgtg | gagctgttcg | aggcgcagca | ggagctgggc | 420  |
| gacacagtgg  | gcaacagcgg | caaggttggc | gcggacaggc | ccaatggcga | tgcggtagcg | 480  |
| cagtctgaca  | agcccaacag | caagcgctca | cggcggcagc | gcaacaacga | gaaccgtgag | 540  |
| aacgcgtcca  | gcaaccacga | ccacgacgac | ggcgcctcgg | gcacacccaa | ggagaagaag | 600  |
| gccaagacct  | ccaagaagaa | gaagcgctcc | aaggccaagg | cggagcgaga | ggcgtcccct | 660  |
| gccgacctcc  | ccatcgaccc | caacgaaccc | acgtactgtc | tgtgcaacca | ggtctcctat | 720  |
| ggggagatga  | tcggctgcga | caacgacgag | tgccccatcg | agtggttcca | cttctcgtgc | 780  |
| gtggggctca  | atcataaacc | caagggcaag | tggtactgtc | ccaagtgccg | gggggagaac | 840  |
| gagaagacca  | tggacaaagc | cctggagaaa | tccaaaaaag | agagggctta | caacaggtag | 900  |
| tttgtggaca  | ggcgcctggt | gtgaggagga | caaaataaac | cgtgtattta | ttacattgct | 960  |
| gcctttgttg  | aggtgcaagg | agtgtaaaat | gtatatttt  | aaagaatgtt | agaaaaggaa | 1020 |
| ccattccttt  | catagggatg | gcagtgattc | tgtttgcctt | ttgttttcat | tggtacacgt | 1080 |
| gtaacaagaa  | agtggtctgt | ggatcagcat | tttagaaact | acaaatatag | gtttgattca | 1140 |
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| <210> 3<br><211> 742<br><212> DNA<br><213> Homo<br><220>   | sapiens    |            |            |            |              |     |  |
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| agtgacaggc   | aaggccacgc | ccccgcgagg | gccggcctcg | agcccgcagc | ccccagggcc   | 120 |  |
| tgggacgaga   | tcctgaagga | gctagacgag | tgctacgagc | gcttcagtcg | cgagacagac   | 180 |  |
| ggggcgcaga   | agcggcggat | gctgcactgt | gtgcagcgcg | cgctgatccg | cagccaggag   | 240 |  |
| ctgggcgacg   | agaagatcca | gatcgtgagc | cagatggtgg | agctggtgga | gaaccgcacg   | 300 |  |
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| ggcaacagcg   | gcaaggctgg | cgcggacagg | cccaaaggcg | aggcggcagc | gcaggctgac   | 420 |  |
| aagcccaaca   | gcaagcgctc | acggcggcag | cgcaacaacg | agaaccgtga | gaacgcgtcc   | 480 |  |
| agcaaccacg   | accacgacga | cggcgcctcg | ggcacaccca | aggagaagaa | ggccaagacc   | 540 |  |
| tccaagaaga   | agaagcgctc | caaggccaag | gcggagcgag | aggcgtcccc | tgccgacctc   | 600 |  |
| cccatcgacc   | ccaacgaacc | cacgtactgt | ctgtgcaacc | aggtctccta | tggggagatg   | 660 |  |
| atcggctgcg   | acaacgacga | gtgccccatc | gagtggttcc | acttctcgtg | cgtggggctc   | 720 |  |
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| ctcgggccta   | tccacctctt | ctggggctcg | gcactaggaa | gcagcttccc | tctcaggccc   | 120 |  |
| ctttgtctcc   | aagccgttcc | aaactgagta | ccgggagacg | acacaaaggg | agggcggtga   | 180 |  |
| cggatggcgc   | aggcgcggga | gccgcctagg | ctgctgggag | tggtggtccg | gccgcggaat   | 240 |  |
| ggagatcctg   | aaggagctag | acgagtgcta | cgagcgcttc | agtcgcgaga | cagacggggc   | 300 |  |
| gcagaagcgg   | cggatgctgc | actgtgtgca | gcgcgcgctg | atccgcagcc | aggagctggg   | 360 |  |
| cgacgagaag   | atccagatcg | tgagccagat | ggtggagctg | gtggagaacc | gcacgcggca   | 420 |  |
| ggtggacagc   | cacgtggagc | tgttcgaggc | gcagcaggag | ctgggcgaca | cagcgggcaa   | 480 |  |
| cagcggcaag   | gctggcgcgg | acaggcccaa | aggcgaggcg | gcagcgcagg | ctgacaagcc   | 540 |  |
| caacagcaag   | cgctcacggc | ggcagcgcaa | caacgagaac | cgtgagaacg | cgtccagcaa   | 600 |  |
| ccacgaccac   | gacgacggcg | cctcgggcac | acccaaggag | aagaaggcca | agacctccaa   | 660 |  |
| gaagaagaag   | cqctccaaqq | ccaaggcgga | gcgagaggcg | tcccctgccg | acctccccat   | 720 |  |

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| taaacccaag ggcaagt   |  |            |            |            |            |            |            |            |            |            |            |            |            |            |            |
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| Glu                  | Asp  | Tyr        | Leu<br>20  | Asp        | Ser        | Ile        | Glu        | Ser<br>25  | Leu        | Pro        | Phe        | Asp        | Leu<br>30  | Gln        | Arg        |
| Asn                  | Val  | Ser<br>35  | Leu        | Met        | Arg        | Glu        | Ile<br>40  | Asp        | Ala        | Lys        | Tyr        | Gln<br>45  | Glu        | Ile        | Leu        |
| Lys                  | Glu<br>50  | Leu        | Asp        | Glu        | Cys        | Tyr<br>55  | Glu        | Arg        | Phe        | Ser        | Arg<br>60  | Glu        | Thr        | Asp        | Gly        |
| Ala<br>65            | Gln  | Lys        | Arg        | Arg        | Met<br>70  | Leu        | His        | Cys        | Val        | Gln<br>75  | Arg        | Ala        | Leu        | Ile        | Arg<br>80  |
| Ser                  | Gln  | Glu        | Leu        | Gly<br>85  | Asp        | Glu        | Lys        | Ile        | Gln<br>90  | Ile        | Val        | Ser        | Gln        | Met<br>95  | Val        |
| Glu                  | Leu  | Val        | Glu<br>100 | Asn        | Arg        | Thr        | Arg        | Gln<br>105 | Val        | Asp        | Ser        | His        | Val<br>110 | Glu        | Leu        |
| Phe                  | Glu  | Ala<br>115 | Gln        | Gln        | Glu        | Leu        | Gly<br>120 | Asp        | Thr        | Val        | Gly        | Asn<br>125 | Ser        | Gly        | Lys        |
| Val                  | Gly<br>130   | Ala        | Asp        | Arg        | Pro        | Asn<br>135 | Gly        | Asp        | Ala        | Val        | Ala<br>140 | Gln        | Ser        | Asp        | Lys        |
| Pro<br>145           | Asn  | Ser        | Lys        | Arg        | Ser<br>150 | Arg        | Arg        | Gln        | Arg        | Asn<br>155 | Asn        | Glu        | Asn        | Arg        | Glu<br>160 |
| Asn                  | Ala  | Ser        | Ser        | Asn<br>165 | His        | Asp        | His        | Asp        | Asp<br>170 | Gly        | Ala        | Ser        | Gly        | Thr<br>175 | Pro        |
| Lys                  | Glu  | Lys        | Lys<br>180 | Ala        | Lys        | Thr        | Ser        | Lys<br>185 | Lys        | Lys        | Lys        | Arg        | Ser<br>190 | Lys        | Ala        |
| Lys                  | Ala  | Glu<br>195 | Arg        | Glu        | Ala        | Ser        | Pro<br>200 | Ala        | Asp        | Leu        | Pro        | Ile<br>205 | Asp        | Pro        | Asn        |
| Glu                  | Pro<br>210   | Thr        | Tyr        | Cys        | Leu        | Cys<br>215 | Asn        | Gln        | Val        | Ser        | Tyr<br>220 | Gly        | Glu        | Met        | Ile        |
| Gly<br>225           | Cys  | Asp        | Asn        | Asp        | Glu<br>230 | Cys        | Pro        | Ile        | Glu        | Trp<br>235 | Phe        | His        | Phe        | Ser        | Cys<br>240 |
| Val                  | Gly  | Leu        | Asn        | His<br>245 | Lys        | Pro        | Lys        | Gly        | Lys<br>250 | Trp        | Tyr        | Cys        | Pro        | Lys<br>255 | Суѕ        |
| Arg                  | Gly  | Glu        | Asn        | Glu        | Lys        | Thr        | Met        | Asp        | Lys        | Ala        | Leu        | Glu        | Lys        | Ser        | Lys        |

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840 857

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265

Lys Glu Arg Ala Tyr Asn Arg 275

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Glu Thr Asp Gly Ala Gln Lys Arg Arg Met Leu His Cys Val Gln Arg 20 25 30

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<213> Homo sapiens

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265 270

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Leu His Glu Asn Cys Met Leu Lys Lys Glu Ile Ala Met Leu Lys Leu 375

Glu Ile Ala Thr Leu Lys His Gln Tyr Gln Glu Lys Glu Asn Lys Tyr 390

Phe Glu Asp Ile Lys Ile Leu Lys Glu Lys Asn Ala Glu Leu Gln Met 410

Thr Leu Lys Leu Lys Glu Glu Ser Leu Thr Lys Arg Ala Ser Gln Tyr 425 420

Ser Gly Gln Leu Lys Val Leu Ile Ala Glu Asn Thr Met Leu Thr Ser

Lys Leu Lys Glu Lys Gln Asp Lys Glu Ile Leu Glu Ala Glu Ile Glu

Ser His His Pro Arg Leu Ala Ser Ala Val Gln Asp His Asp Gln Ile 470 475

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-10-25325642.1

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|--------------|----------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------------------|
|              | )> 19                            |            | _          |            |            |            | _          |            | _          |            |            |            | _          | _          |                        |
| Met<br>1     | Pro                              | Leu        | Суѕ        | Thr<br>5   | Ala        | Thr        | Arg        | Ile        | Pro<br>10  | Arg        | Tyr        | Ser        | Ser        | Ser<br>15  | Ser                    |
| Asp          | Pro                              | Gly        | Pro<br>20  | Val        | Ala        | Arg        | Gly        | Arg<br>25  | Gly        | Суз        | Ser        | Ser        | Asp<br>30  | Arg        | Leu                    |
| Pro          | Arg                              | Pro<br>35  | Ala        | Gly        | Pro        | Ala        | Arg<br>40  | Arg        | Gln        | Phe        | Gln        | Ala<br>45  | Ala        | Ser        | Leu                    |
| Leu          | Thr<br>50                        | Arg        | Gly        | Trp        | Gly        | Arg<br>55  | Ala        | Trp        | Pro        | Trp        | Lys<br>60  | Gln        | Ile        | Leu        | Lys                    |
| Glu<br>65    | Leu                              | Asp        | Glu        | Cys        | Tyr<br>70  | Glu        | Arg        | Phe        | Ser        | Arg<br>75  | Glu        | Thr        | Asp        | Gly        | Ala<br>80              |
| Gln          | Lys                              | Arg        | Arg        | Met<br>85  | Leu        | His        | Cys        | Val        | Gln<br>90  | Arg        | Ala        | Leu        | Ile        | Arg<br>95  | Ser                    |
| Gln          | Glu                              | Leu        | Gly<br>100 | Asp        | Glu        | Lys        | Ile        | Gln<br>105 | Ile        | Val        | Ser        | Gln        | Met<br>110 | Val        | Glu                    |
| Leu          | Val                              | Glu<br>115 | Asn        | Arg        | Thr        | Arg        | Gln<br>120 | Val        | Asp        | Ser        | His        | Val<br>125 | Glu        | Leu        | Phe                    |
| Glu          | Ala<br>130                       | Gln        | Gln        | Glu        | Leu        | Gly<br>135 | Asp        | Thr        | Val        | Gly        | Asn<br>140 | Ser        | Gly        | Lys        | Va]                    |
| Gly<br>145   | Ala                              | Asp        | Arg        | Pro        | Asn<br>150 | Gly        | Asp        | Ala        | Val        | Ala<br>155 | Gln        | Ser        | Asp        | Lys        | Pro<br>160             |
| Asn          | Ser                              | Lys        | Arg        | Ser<br>165 | Arg        | Arg        | Gln        | Arg        | Asn<br>170 | Asn        | Glu        | Asn        | Arg        | Glu<br>175 | Asr                    |
| Ala          | Ser                              | Ser        | Asn<br>180 | His        | Asp        | His        | Asp        | Asp<br>185 | Gly        | Ala        | Ser        | Gly        | Thr<br>190 | Pro        | Lys                    |
| Glu          | Lys                              | Lys<br>195 | Ala        | Lys        | Thr        | Ser        | Lys<br>200 | Lys        | Lys        | Lys        | Arg        | Ser<br>205 | Lys        | Ala        | Lys                    |
| Ala          | Glu<br>210                       | Arg        | Glu        | Ala        | Ser        | Pro<br>215 | Ala        | Asp        | Leu        | Pro        | Ile<br>220 | Asp        | Pro        | Asn        | Glu                    |
| Pro<br>225   | Thr                              | Tyr        | Cys        | Leu        | Cys<br>230 | Asn        | Gln        | Val        | Ser        | Tyr<br>235 | Gly        | Glu        | Met        | Ile        | Gl <sub>3</sub><br>240 |
| Cys          | Asp                              | Asn        | Asp        | Glu<br>245 | Cys        | Pro        | Ile        | Glu        | Trp<br>250 | Phe        | His        | Phe        | Ser        | Cys<br>255 | Val                    |
| Gly          | Leu                              | Asn        | His<br>260 | Lys        | Pro        | Lys        | Gly        | Lys<br>265 | Trp        | Tyr        | Cys        | Pro        | Lys<br>270 | Суѕ        | Arg                    |
| Gly          | Glu                              | Asn<br>275 | Glu        | Lys        | Thr        | Met        | Asp<br>280 | Lys        | Ala        | Leu        | Glu        | Lys<br>285 | Ser        | Lys        | Lys                    |
| Glu          | Arg                              |            | Tyr<br>90  | Asn        | Arg        | 2          | 294        |            |            |            |            |            |            |            |                        |

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